

ABSTRACT

SYSTEM AND APPARATUS FOR ACHIEVING VERY HIGH CROWN-TO-CAMBER RATIOS ON MAGNETIC SLIDERS

[0032] A system and apparatus precisely controls the amount of flatness or curvature in a lapping plate. The lapping plate is formed from two layers of metal alloys, such as tin-antimony and steel. A bimetallic effect is exploited to induce a linear expansion in the plate so that the flatness or curvature of the plate is manipulated with thermal cycling. The plate is machined and charged under very specific and tightly controlled temperatures to produce a very robust, flat plate charge. As temperature cycling induces a linear expansion along a single plane across the plate, the resultant flatness change is scalar with temperature, and can be repeated and controlled. When the plate laps magnetic sliders, the plate can be thermally cycled to produce a conical surface and a high crown-to-camber ratio can be achieved.